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1984

## Nebraska Summary S018: Zetor 10145

Nebraska Tractor Test Laboratory

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# SUMMARY OF OECD TEST 907—NEBRASKA SUMMARY 018

## ZETOR 10145 DIESEL

### 16 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Fuel Consumption			Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1146 rpm)					
88.0 (65.6)	2200	5.14 (19.46)	0.416 (0.253)	16.95 (3.34)	
Standard Power Take-off Speed (1000 rpm)					
79.9 (59.6)	1920	4.58 (17.34)	0.407 (0.247)	17.41 (3.43)	

#### VARYING POWER AND FUEL CONSUMPTION

76.9 (57.3)	2256	4.77 (18.05)	0.441 (0.268)	16.09 (3.17)	Air temperature  77°F (25°C)
..... .....	2437	1.65 (6.26)	..... .....	..... .....	
39.3 (29.3)	2344	3.14 (11.89)	0.567 (0.345)	12.49 (2.46)	
88.0 (65.6)	2200	5.14 (19.46)	0.416 (0.253)	16.95 (3.34)	45%
20.0 (14.9)	2387	2.41 (9.11)	0.854 (0.519)	8.27 (1.63)	Barometer
58.7 (43.7)	2300	3.94 (14.92)	0.477 (0.290)	14.87 (2.93)	29.60" Hg (100.0 kPa)

Maximum Torque 218.7 lb. ft (296.5 Nm) @ 1860 RPM  
Maximum Torque Rise 4%

#### DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C)	Air cool- ing med	Barom. inch Hg (kPa)
<b>75% of Pull at Maximum Power—Five Hours 9th (H1) Gear</b>									
58.6 (43.7)	5130 (22.8)	4.29 (6.90)	2265	5.8	0.538 (0.327)	13.15 (2.59)	186 (85)	72 (22)	29.50 (99.6)

#### MAXIMUM POWER IN SELECTED GEARS

4th Gear (L2)									
67.7 (50.5)	12700 (56.5)	2.00 (3.22)	2200	15.0	0.565 (0.344)	12.74 (2.51)	186 (85)	58 (14)	30.15 (101.8)
5th Gear (L3M)									
70.7 (52.7)	10460 (46.5)	2.54 (4.08)	2207	10.7	0.541 (0.329)	13.05 (2.57)	186 (85)	61 (16)	30.19 (101.9)
6th Gear (H1M)									
73.7 (54.9)	9180 (40.9)	3.01 (4.84)	2201	9.0	0.517 (0.314)	13.65 (2.69)	185 (85)	62 (17)	30.19 (101.9)
7th Gear (L3)									
74.7 (55.7)	8000 (35.6)	3.50 (5.63)	2200	7.5	0.513 (0.312)	13.76 (2.71)	185 (85)	61 (16)	30.19 (101.9)
8th Gear (L4M)									
74.6 (55.6)	7430 (33.1)	3.77 (6.06)	2200	6.8	0.511 (0.311)	13.81 (2.72)	185 (85)	60 (15)	30.19 (101.9)
9th Gear (H1)									
75.4 (56.2)	6820 (30.4)	4.14 (6.67)	2200	6.1	0.502 (0.305)	14.06 (2.77)	187 (86)	61 (16)	30.19 (101.9)
10th Gear (H2M)									
75.5 (56.3)	5710 (25.4)	4.95 (7.97)	2198	5.0	0.501 (0.304)	14.11 (2.78)	187 (86)	61 (16)	30.18 (101.9)
11th Gear (L4)									
75.6 (56.4)	5490 (24.4)	5.16 (8.31)	2201	4.8	0.501 (0.304)	14.11 (2.78)	189 (87)	64 (18)	30.18 (101.9)
12th Gear (H2)									
75.2 (56.1)	4190 (18.6)	6.73 (10.83)	2198	3.4	0.501 (0.304)	14.11 (2.78)	189 (87)	64 (18)	30.18 (101.9)

**Location of Test:** National Institute of Agricultural Engineering, Wrest Park, Silsoe, Bedford, England MK45 4HS

**Dates of Test:** February to August 1984

**Manufacturer:** Zavody Tazkeho Strojarsstva, Narodny Podnik, Box 03657, Martin, Czechoslovakia

**FUEL AND OIL:** Fuel No. 2 Diesel Cetane No. NA Specific gravity converted to 60°/60°F (15°/15°C) 0.8515 Fuel weight 7.08 lbs/gal (0.849 kg/l) Oil SAE 10W30 Oil Consumption for 10 hours 0.76 lb (344 gm) Transmission lubricant PP 80 API GL-4 Front axle lubricant SAE 80 API GL-4

**ENGINE:** Make Zetor Diesel Type four cylinder vertical with turbocharger Serial No. 000 001 Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.3" × 4.7" (110 mm × 120 mm) Compression ratio 17 to 1 Displacement 278 cu in (4562 ml) Starting system 12 volt Lubrication pressure Air cleaner oil bath with centrifugal pre-cleaner Oil filter full flow centrifugal Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter two paper elements and sediment bowl Muffler vertical Cooling medium temperature control thermostat.

**CHASSIS:** Type four wheel drive Serial No. 100 003 Tread width rear 59" (1500 mm) to 74" (1875 mm) front 63" (1600 mm) to 71" (1800 mm) Wheel base 94.1" (2390 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (2) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.17 (1.89) second 1.57 (2.53) third 1.85 (2.98) fourth 2.48 (3.99) fifth 2.95 (4.74) sixth 3.43 (5.52) seventh 3.94 (6.34) eighth 4.19 (6.75) ninth 4.59 (7.39) tenth 5.41 (8.70) eleventh 5.61 (9.03) twelfth 7.23 (11.64) thirteenth 8.61 (13.86) fourteenth 11.50 (18.50) fifteenth 12.23 (19.68) sixteenth 16.37 (26.34) reverse 1.61 (2.59), 2.15 (3.46), 2.54 (4.08), 3.39 (5.46), 4.03 (6.48), 5.39 (8.67), 5.74 (9.23), 7.67 (12.35) Clutch single dry disc operated by foot pedal Brakes multiple dry disc hydraulically operated by two foot pedals which can be locked together Steering power assist Power take-off 540 rpm at 1890 engine rpm and 1000 rpm at 1920 engine rpm Unladen tractor mass 10370 lb (4704 kg).

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

TRACTOR SOUND LEVEL WITH CAB		dB(A)
Maximum sound level—in 9th (H1) gear		85.0
Bystander in 16th (H4) gear		88.0

#### CENTER OF GRAVITY

Horizontal distance forward from centerline of rear wheels	36.7" in (932 mm)
Vertical distance above roadway	36.3" in (921 mm)
Horizontal distance from center of rear wheel tread 0" to the right/left	

#### TURNING ON A CONCRETE SURFACE

Turning radius—with brake applied right 164" (4.16 m) left 190" (4.83 m)	
—without brake right 233" (5.93 m) left 229" (5.82 m)	
Turning space radius—with brake applied right 171" (4.34 m) left 197" (5.01 m)	
—without brake right 241" (6.11 m) left 236" (6.00 m)	

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 16.9-38; 8; 16 (110)	Two 16.9-38; 8; 12 (80)
	Ballast	1598 lb (725 kg)	None
	—Cast Iron (total)	448 lb (203 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 12.4-24; 6; 23 (160)	Two 12.4-24; 6; 16 (110)
	Ballast	None	None
	—Cast Iron (total)	756 lb (343 kg)	None
Height of Drawbar		13.8 in (350 mm)	14.4 in (365 mm)
Static Weight	—Rear	8225 lb (3731 kg)	6338 lb (2875 kg)
	—Front	4947 lb (2244 kg)	4032 lb (1829 kg)
	—Total	13172 lb (5975 kg)	10370 lb (4704 kg)

#### THREE POINT HITCH PERFORMANCE (STATIC TEST)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 7420 lbs (33.0 kN)

i) Opening pressure of relief valve: 2320 psi (163 Bar)

Sustained pressure of the open relief valve: 2740 psi (193 Bar)

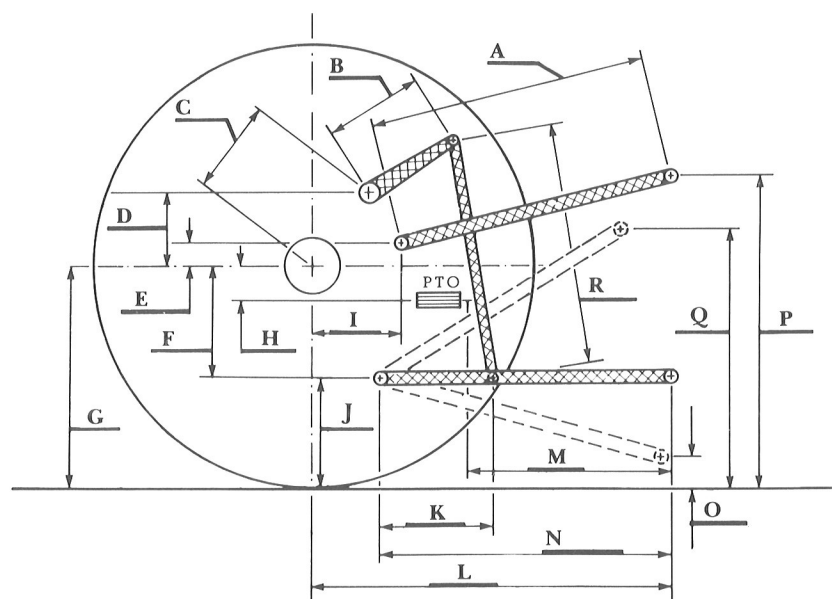
ii) Pump delivery rate at minimum pressure and rated engine speed: 12.8 GPM (48.6 l/min)

iii) Pump delivery rate at maximum hydraulic power: 9.8 GPM (37.0 l/min)

Delivery pressure: 2320 psi (163 Bar)

Power: 13.7 Hp (10.2 kW)

#### HITCH DIMENSIONS AS TESTED—NO LOAD



Hitch Dimensions as Tested — No Load

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures.

The performance figures on this summary are taken from a test conducted under the OECD standard test code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. 907, Nebraska Summary 018, May 17, 1988.

LOUIS I. LEVITICUS

Engineer-in-Charge

K. VON BARGEN

R. D. GRISSO

J. R. GILLEY

Board of Tractor Test Engineers

	inch	mm
A	26.9	683
B	13.0	330
C	13.1	333
D	11.3	286
E	8.3	210
F	10.0	255
G	31.3	795
H	6.1	155
I	15.2	385
J	21.3	540
K	19.6	498
L	42.2	1072
M	22.1	562
N	37.1	942
O	11.4	290
P	41.4	1050
Q	37.0	940
R	22.0	559